



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,137	11/28/2001	Ming-Chih Chang	B-4394 619332-2	3414
36716	7590	04/17/2006	EXAMINER	
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			DIVECHA, KAMAL B	
			ART UNIT	PAPER NUMBER
			2151	
DATE MAILED: 04/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/997,137	Applicant(s) CHANG ET AL.	
	Examiner KAMAL B. DIVECHA	Art Unit 2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Claims 1-6, 10-17 are pending in this application.

Applicant's arguments with respect to claims 1-6 and 10-17 have been considered but are moot in view of the new ground(s) of rejection. New rejection has been presented accordingly.

DETAILED ACTION

Specification

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and use the invention, i.e., failing to provide an enabling disclosure.

The test to be applied under the written description portion of 35 U.S.C. § 112, first paragraph, is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of later claimed subject matter. Vas-Cat, Inc. v. Mahurkar, 935 F. 2d 1555, 1565, 19 USPQ2d 111, 1118 (Fed. Cir. 1991), reh'rg denied (Fed. Cir. July 8, 1991) and reh'rg, en banc, denied (Fed. Cir. July 29, 1991).

The applicants have failed to provide an enabling disclosure in the detailed description of the embodiment. The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to support the subject matter set forth in these claims.

Claim 1 recites "...at least one diskless client, comprising a transforming device, which extracts a hard disk access command from at least one interface signal sent from the diskless client ... and encapsulates the data package into at least one network packet to be sent through a network, wherein the at least one interface signal complies...a server...wherein, after receiving the at least one network packet, the server reconstructs the data package from the at least one

Art Unit: 2151

network packet, extracts the hard disk access command and the identity number contained in the data package...

Claim 10 recites "...an interface circuit, used to receive at least one interface signal from the diskless client and extract a hard disk access command from the at least one interface signal, wherein the at least one interface signal complies with a peripheral interface...a network controller, connected to the logical circuit for encapsulating the data package into at least one network packet and deliver the at least one network packet to the server through the network; wherein, after receiving the at least one network packet, the server reconstructs the data package from the at least one network packet, extracts the hard disk access command and the identity number contained in the data package , and implements a requested disk access process on a storage..."

Claim 16 recites "...for receiving the at least one interface signal complying with the PCI standard; and an IDE controller, coupled to the PCI interface for transforming the at least one interface signal into one IDE signal which complies with the IDE standard, **and then** extracting the hard disk access command from the at least one IDE signal."

The applicant has relied on the description of element 32, 34, 36 of figure 3 for providing the support for the amendments (i.e. the recited limitation above) and the new claims (remarks, page 6), however, the description of figure 3 is:

"Fig. 3 is block diagram illustrating the first example for the transforming device 30 in the embodiment of the present invention. The transforming device 30 shown in fig. 3 is, for this example, installed in an IDE slot 38 of a client. As shown in fig. 3, the transforming device 30 comprises an IDE interface circuit 32, and IDE-to-network logical circuit 34 and a network

Art Unit: 2151

controller 36. The IDE interface circuit is used to receive a hard disk access command from one of the clients 20-2n through IDE slot 38, such as a read, write or controlling command. The IDE-to-network logical circuit 34 is connected to the IDE interface circuit 32. It receives a hard disk access command and packs the command and the identity number relative to one of the clients 20~2n into the same package. Finally, through the network controller 36, the package is delivered to the server 10.”

There is simply no teaching, suggestion or any disclosure whatsoever in the above paragraph or in the disclosure that would convey or at least provide the support for the amended subject matter as set forth above.

There is simply no indication of any interface signal and the process of encapsulating the data package. The disclosure only refers to the data package as a complete data package which is sent to the server (see specification pages 5-7, specially page 5 lines 1-14), but on the other hand the applicant attempts to distinguish the data package and the data packet in the claims by encapsulating the data package into at least one network packet (see claim 1).

Therefore the above claim limitations presents subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-6, 10-17 are rejected under 35 U.S.C. 112, first paragraph, for the same reasons as set forth in the objection to specification above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Klimenko (U. S. Patent No. 5,974,547).

As per claim 1, Klimenko discloses a centralized network storage system, comprising:

- at least one diskless client (fig. 1 item #10, col. 9 L1-7) , comprising a transforming device (fig. 3 item #360, col. 9 L7-11), which extracts a hard disk access command from at least one interface signal sent from the diskless client (col. 9 L12-32: the process is inherent), packs the hard disk access command and an identity number relative to the diskless client into a data package (fig. 4 item 484: also note that the process of packing the command and identity into a data package or packet is inherent, i.e. Klimenko inherently packs the data and the identity of client into a packet since he teaches the process of sending a read and write command to a server,

Art Unit: 2151

also note that each and every packet in data request must include a source address, and source address is equivalent to the identity number relative to the client), and encapsulates the data package into at least one network packet to be sent through a network (col. 9 L65 to col. 10 L5, col. 11 L10-20: Klimenko inherently teaches the process of encapsulating since he teaches the process of sending the read/write command to a server), wherein the at least one interface signal complies with a peripheral interface standard allowing for connection of a peripheral device to a PC (col. 11 L8 to col. 12 L21, col. 13 L40-45); and

- a server , connected to the at least one diskless client through the network (fig. 1 item #50 and item #30), comprising a centralized storage device divided into at least one storage area, each of which respectively corresponds to each of the diskless clients (fig. 2B item #280(1) to 280(n)); wherein after receiving the at least one network packet, the server reconstructs the data package from the at least one network packet, extracts the hard disk access command and the identity number contained therein in the data package (fig. 12 item #1210 and fig. 13), and implements a requested disk access process on the storage area relative to the diskless client represented by the identity number according to the hard disk access command (fig. 14, col. 16 L55 to col. 17 L3, col. 17 L18 to col. 18 L15) .

As per claim 2, Klimenko discloses the system wherein the transforming device is an interface card installed in an expansion slot of the diskless client, and the expansion slot complies with the peripheral interface standard (fig. 2A item #362, fig. 3 item #360, item #310: please note that all the expansion slots in a computer whether diskless or PC complies with the peripheral interface standard).

Art Unit: 2151

As per claim 15, Klimenko discloses the system wherein the hard disk command is a read, write or controlling command, and the requested disk access process is to execute a read, write or controlling operation on the storage area according to the hard disk command (fig. 4item #482, 484 and col. 11 L65 to col. 12 L15, col. 16 L56 to col. 17 L3, col. 17 L18 to col. 18 L15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klimenko (U. S. Patent No. 5,974,547) in view of Cheston et al., (hereinafter Cheston, U. S. Patent No. 6,601,097 B1).

As per claim 3, Klimenko does not disclose the system wherein the peripheral interface standard is an Integrated Device Electronics (IDE) standard.

Cheston explicitly discloses a client/server system wherein the client system includes an Integrated Device Electronics (IDE) standard as a peripheral interface standard (fig. 2 item #220, item #210, item #230 and col. 2 L58-67).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Cheston as stated above with Klimenko, in order to include an IDE standard interface.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for attaching of IDE compatible devices (Cheston, col. 2 L64-66).

As per claim 4, Klimenko does not disclose the system wherein the peripheral interface standard is a Peripheral Component Interconnect standard.

Cheston explicitly discloses the client/server system wherein the client system includes a PCI standard interface (fig. 2 item #210, item #204, col. 3 L5-32).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Cheston as stated above with Klimenko, in order to include a PCI standard interfaces.

One of ordinary skilled in the art would have been motivated because it would have enabled connecting the PCI bus compatible peripheral cards in the client system (col. 3 L5-8).

As per claim 5, Klimenko in view of Cheston discloses a system wherein the network and the at least one network packet conforms to an Ethernet protocol standard (Klimenko, fig. 1 and fig. 2A; Cheston fig. 1, col. 2 L45-48).

Art Unit: 2151

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klimenko (U. S. Patent No. 5,974,547) in view of Cheston et al., (hereinafter Cheston, U. S. Patent No. 6,601,097 B1), and further in view of Sakarda et al., (hereinafter Sakarda, U. S. Patent No. 6,594,721 B1).

As per claim 14, Klimenko in view of Cheston's teachings as set forth above still applied, however Klimenko in view of Cheston does not disclose the system wherein the at least one interface signal complying with the PCI standard is first transformed to at least one IDE signal which complies with the IDE standard by the transforming device.

Sakarda, from the same field of endeavor discloses the process of transforming or converting PCI standard bus signal to an IDE bus signal that obviously complies with the IDE standard (fig. 2 item #120, col. 4 L36-40, col. 8 L44-64, col. 10 L25-30).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Klimenko in view of Cheston, in order to convert the PCI bus format signal to an IDE bus format signal, since Cheston teaches the process of converting the signal from PCI to IDE format.

One of ordinary skilled in the art would have been motivated because it would have enabled connecting the IDE bus format peripheral devices to the computer system that typically includes PCI bus for connecting the PCI bus format peripheral devices (Sakarda, col. 10 L25-29).

Art Unit: 2151

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klimenko (U. S. Patent No. 5,974,547) in view of Cheston et al., (hereinafter Cheston, U. S. Patent No. 6,601,097 B1), and further in view of Kedem et al., (hereinafter Kedem, U. S. Patent No. 6,477,624 B1).

As per claim 6, Klimenko in view of Cheston does not disclose a system wherein the diskless clients are connected to the server through a wireless network.

Kedem, from the same field of endeavor, explicitly shows a system wherein a network computer (read as diskless client) can be connected to the server (known as RDIM in the reference) through a wireless network (col. 8 L29-33 and fig. 2, col. 3 L41-47).

Therefore, it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Kedem as stated above with Klimenko in view of Cheston, in order to connect the clients to the server through a wireless network.

One of ordinary skilled in the art would have been motivated because it would have provided a convenient means of communication between a client/server architecture.

6. Claims 10-13 and 16-17 are rejected under 35 U.S.C. 103(a) as being obvious over Kedem et al., (hereinafter Kedem, U. S. Patent No. 6,477,624 B1) in view Klimenko (U. S. Patent No. 5,974,547).

As per claim 10, Kedem discloses a transforming device used in centralized network storage system and installed in a diskless client (fig. 2 item #202, fig. 3 item #202 and fig. 4 item #202), wherein the transforming device is connected to a server through a network (fig. 2 item #202, 204 and fig. 4), the transforming device comprising:

Art Unit: 2151

- an interface circuit, **used** to receive at least one interface signal (interpret as receiving hard disk access command) from the diskless client and extract a hard disk access command from the at least one interface signal, wherein the at least one interface signal complies with a peripheral interface standard allowing for connecting of a peripheral device to a PC (fig. 2, fig. 3 item #312, fig. 4 item #401, col. 10 L58-62 and col. 13 L60-65; col. 8 L43-66);

- a logical circuit, connected to the interface circuit for packing both the hard disk access command and an identity number unique to the diskless client into the data package (fig. 3 item #310, fig. 4 item #406 and col. 9 L34-40: please note Kedem discloses sending a read packet, therefore it is obvious that the packet was prepared, i.e. packed, and as it's known in the art, every packet includes a unique source identifier); and

- a network controller, connected to the logical circuit (fig. 4 item #402), for encapsulating the data package into at least one network packet and deliver the at least one network packet to the server through the network (col. 9 L34-40, col. 17 L35-43 and fig. 2: please note that since Kedem teaches the process of transmitting the read packet, it is obvious that the packet was and/or must have been encapsulated for the transmission through the network); wherein after receiving the at least one packet, the server reads the data and transmits back to the client (col. 18 L35-56), however, Kedem does not the process wherein after receiving the at least one network packet, the server reconstructs the data package from the at least one network packet, extracts the hard disk command and the identity number contained in the data package and implements a requested disk access process on a storage area relative to the diskless client represented by the identity number according to the hard disk command.

Klimenko, from the same field of endeavor discloses a server, connected to the at least one diskless client through the network (fig. 1 item #50 and item #30), comprising a centralized storage device divided into at least one storage area, each of which respectively corresponds to each of the diskless clients (fig. 2B item #280(1) to 280(n)); wherein after receiving the at least one network packet, the server reconstructs the data package from the at least one network packet, extracts the hard disk access command and the identity number contained therein in the data package (fig. 12 item #1210 and fig. 13), and implements a requested disk access process on the storage area relative to the diskless client represented by the identity number according to the hard disk access command (fig. 14, col. 16 L55 to col. 17 L3, col. 17 L18 to col. 18 L15) .

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to incorporate the teaching of Klimenko as stated above with Kedem, in order to reconstruct the data package from the at least one network packet, extract hard disk command and implement the requested command on a storage area relative to the client.

One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for read and write process to and from a designated client disk area or storage area (Klimenko, col. 17 L1-2, L18-26).

As per claim 11, Kedem discloses the transforming device is an interface card installed in an expansion slot of the diskless client and the expansion slot complies with the peripheral interface standard (col. 11L16-20).

As per claim 12, Kedem discloses a device wherein the peripheral interface standard is an IDE standard (col. 11L16-58).

As per claim 13, Kedem discloses a device wherein the peripheral interface standard is a PCI standard (col. 11 L58-61 and fig. 4).

As per claim 16, Kedem discloses a system wherein the interface circuit comprises: a PCI interface, coupled to the diskless client, for receiving the at least one interface signal complying with the PCI standard; and an IDE controller, coupled to the PCI interface, for transforming the at least one interface signal into at least one IDE signal which complies with the IDE standard and then extracting the hard disk access command from the at least one IDE signal (fig. 4 item #410, item #406, item #401, item #420, fig. 6: indicates host computers input (read) command process, fig. 7: indicates hosts computer output (write) command process and col. 8 L10-12, col. 8 L43-60).

As per claim 17, Kedem discloses the system wherein the hard disk command is read, write or controlling command, and the requested disk access process is to execute a read, write or controlling operation on the storage area according to the hard disk command (col. 8 L43-60 and col. 9 L35-46, col. 18 L45-56).

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Henriquez, U. S. Patent No. 6,668,305 B1: Staggered startup of hard disk drives: teaches the process of converting the PCI bus format signal to IDE bus format signal.
- b. Bonola, U. S. Patent No. 6,321,279 B1: Intelligent I/O Processing in a multi-processor system.
- c. Olarig, U. S. Patent No. 5,878,237: Computer CPU and Memory to PCI Bridge having a plurality of Physical PCI buses.

Art Unit: 2151

Conclusion

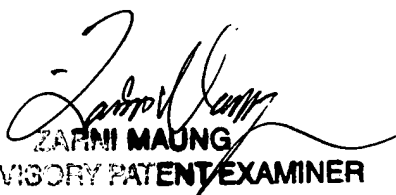
Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kamal Divecha
Art Unit 2151
April 6, 2006.



ZARNI MAUNG
SUPERVISORY PATENT EXAMINER